

Abstract

5 Method for automatic alignment of tilt series in an electron microscope.

It may be desirable to obtain three-dimensional information on a sample 2 to be studied in an electron microscope. Such information can be derived from a tilt series 2-i of the sample and a subsequent reconstruction of the three-dimensional structure by means of
10 a computer algorithm. For a proper reconstruction of the structure in the volume of the sample it is important that the measurement geometry be known; therefore it is important that the images be properly aligned. Therefore markers 8-i (e.g. gold particles) are applied to the sample, which markers yield straight lines 10-i as the sample is rotated and projections of that rotated sample are made onto one image plane.
15 According to the invention the straight lines are recognised, which gives the possibility to identify the individual markers in the images of the tilt series, and to align those images on the basis of the information thus obtained.

Figure 2c